

Mr. James Alexander
U.S. Steel - Gary Works
One North Broadway, MS-70
Gary, Indiana 46402-3199

Re: Minor Source Modification No:
089-14658-00121

Dear Mr. Alexander:

U.S. Steel - Gary Works applied for a Part 70 operating permit on December 13, 1996 for blast furnaces and steel mills. An application to modify the source was received on May 22, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

This project consists of the installation of one (1) active dust control system, or baghouse (LRS-1), with a capacity of 1,089 acfm and a grain loading of 0.007 (grains/cubic foot) on an existing lime storage silo at the Coke Plant Boiler House.

The proposed Minor Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). The source may begin operation upon issuance of the source modification approval.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Mike Pring, ERG, P.O. Box 2010, Morrisville, North Carolina 27560, or call (919) 468-7840 to speak directly to Mr. Pring.

Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
ERG/MP

cc: File - Lake County
U.S. EPA, Region V
Lake County Health Department
City of Gary Division of Air Pollution Control
Northwest Regional Office
Air Compliance Section Inspector - Ramesh Tejula
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner
Office of Air Enforcement - Brian Eaton

**PART 70 MINOR SOURCE MODIFICATION
OFFICE OF AIR QUALITY
and
CITY OF GARY
DIVISION OF AIR POLLUTION CONTROL**

**U.S. Steel - Gary Works
One North Broadway, MS-70
Gary, Indiana 46402-3199**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Source Modification No.: 089-14658-00121	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date:

TABLE OF CONTENTS

SECTION A	SOURCE SUMMARY	4
A.1	General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]	
A.3	Part 70 Permit Applicability [326 IAC 2-7-2]	
SECTION B	GENERAL CONSTRUCTION CONDITIONS	5
B.1	Definitions [326 IAC 2-7-1]	
B.2	Effective Date of the Permit [IC13-15-5-3]	
B.3	Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]	
SECTION C	GENERAL OPERATION CONDITIONS	6
C.1	Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]	
C.2	Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]	
C.3	Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]	
C.4	Opacity [326 IAC 5-1]	
C.5	Fugitive Dust Emission [326 IAC 6-1-11.1]	
C.6	Operation of Equipment [326 IAC 2-7-6(6)]	
C.7	Stack Height [326 IAC 1-7]	
	Testing Requirements [326 IAC 2-7-6(1)]	
C.8	Performance Testing [326 IAC 3-6]	
	Compliance Requirements [326 IAC 2-1.1-11]	
C.9	Compliance Requirements [326 IAC 2-1.1-11]	
	Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]	
C.10	Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]	
	Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]	
C.11	Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6] [326 IAC 1-6]	
C.12	Emergency Provisions [326 IAC 2-7-16] [326 IAC 2-7-6(6)]	
C.13	Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]	
	Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]	
C.14	General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]	
C.15	General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]	
SECTION D.1	FACILITY OPERATION CONDITIONS	15
	Emission Limitations and Standards [326 IAC 2-7-5(1)]	
D.1.1	Particulate Matter (PM) [326 IAC 6-1-2(a)]	
D.1.2	Preventive Maintenance Plan [326 IAC 2-7-5(13)]	
	Compliance Determination Requirements	
D.1.3	Particulate Matter (PM)	

TABLE OF CONTENTS (Continued)

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- D.1.4 Visible Emissions Notations
- D.1.5 Parametric Monitoring
- D.1.6 Baghouse Inspections
- D.1.7 Broken or Failed Bag Detection

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- D.1.8 Record Keeping Requirements

Part 70 Source Modification Certification	18
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SECTION A

SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and the City of Gary Division of Air Pollution Control. The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a steel mill.

Responsible Official:	Glenn Topping
Source Address:	One North Broadway, Gary, Indiana 46402
Mailing Address:	One North Broadway, Gary, Indiana 46402
SIC Code:	3312
County Location:	Lake
Source Location Status:	Nonattainment for ozone, PM-10, and SO ₂ Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD and Emission Offset Rules 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

This project consists of the installation of one (1) active dust control system, or baghouse (LRS-1), with a capacity of 1,089 acfm and a grain loading of 0.007 (grains/cubic foot) on an existing lime storage silo at the Coke Plant Boiler House.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this approval shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.3 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this approval or required by an applicable requirement, any application form, report, or compliance certification submitted under this approval shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, on the attached Certification Form, with each submittal requiring certification.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this approval, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) upon startup, including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond its control, the PMP cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

Gary Division of Air Pollution Control
504 North Broadway, Suite 1012
Gary, Indiana 46402

The PMP and the PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, and Gary Division of Air Pollution Control, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ, and Gary Division of Air Pollution Control. IDEM, OAQ, and Gary

Division of Air Pollution Control, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner, and Gary Division of Air Pollution Control makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner, and Gary Division of Air Pollution Control within a reasonable time.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

Gary Division of Air Pollution Control
504 North Broadway, Suite 1012
Gary, Indiana 46402

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Fugitive Dust Emissions [326 IAC 6-1-11.1]

Pursuant to 326 IAC 6-1-11.1 (Lake County Fugitive Particulate Matter Control Requirements), the particulate matter emissions from source wide activities shall meet the following requirements:

- (a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).
- (b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).
- (c) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).
- (d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.
- (e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.
- (f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.
- (g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).
- (h) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.
- (i) The PM₁₀ emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.
- (j) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).
- (k) Any facility or operation not specified in 326 IAC 6-1-11.1(d) shall meet a twenty percent (20%), three (3) minute average opacity standard.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the Fugitive Dust Control Plan.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4(d), (e), and (f), and 326 IAC 1-7-5(d) are not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable

procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

Gary Division of Air Pollution Control
504 North Broadway, Suite 1012
Gary, Indiana 46402

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ, and Gary Division of Air Pollution Control not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, and Gary Division of Air Pollution Control, if the source submits to IDEM, OAQ, and Gary Division of Air Pollution Control a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.11 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole of information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the

Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:

- (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (General Record Keeping Requirements and General Reporting Requirements) and in Section D of this permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ, and Gary Division of Air Pollution Control upon request and shall be subject to review and approval by IDEM, OAQ, and Gary Division of Air Pollution Control. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:
 - (A) Reasonable response steps that may be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking reasonable response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to take reasonable response steps may constitute a violation of the permit.
- (c) Upon investigation of a compliance monitoring excursion, the Permittee is excused from taking further response steps for any of the following reasons:
- (1) A false reading occurs due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

- (e) All monitoring required in Section D shall be performed at all times the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.
- (f) At its discretion, IDEM may excuse the Permittee's failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent (5%) of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.

C.12 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and the Gary Division of Air Pollution Control within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

Gary Division of Air Pollution Control

504 North Broadway, Suite 1012
Gary, Indiana 46402

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) IDEM, OAQ, and the Gary Division of Air Pollution Control may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, and the Gary Division of Air Pollution Control by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

**C.13 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]
[326 IAC 2-7-6]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.14 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner or Gary Division of Air Pollution Control makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner or Gary Division of Air Pollution Control within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.15 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

- (a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

and

Gary Division of Air Pollution Control

504 North Broadway, Suite 1012
Gary, Indiana 46402

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and Gary Division of Air Pollution Control on or before the date it is due.
- (d) Unless otherwise specified in this permit, any quarterly or semi-Annual report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) The first report shall cover the period commencing on the date of start-up after modifications are completed and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

This project consists of the installation of one (1) active dust control system, or baghouse (LRS-1), with a capacity of 1,089 acfm and a grain loading of 0.007 (grains/cubic foot) on an existing lime storage silo at the Coke Plant Boiler House.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-1-2(a)] [326 IAC 2-3]

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Limitations) particulate matter (PM), emissions from the lime storage silo baghouse shall be limited to 0.03 grain per dry standard cubic foot. Compliance with this limit will limit PM and PM-10 emissions to less than 1.3 tons per year, making 326 IAC 2-3 (Emission Offset) not applicable.

D.1.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.1.3 Particulate Matter (PM)

In order to comply with D.1.1, the baghouse for PM control shall be in operation and control emissions from the lime storage silo at all times that the lime storage silo is being pneumatically loaded..

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.4 Visible Emissions Notations

- (a) Visible emission notations of the lime storage silo baghouse stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the lime storage silo, at least once per shift when the lime storage silo is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 3.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and the City of Gary, Division of Air Pollution Control, and shall be calibrated at least once every six (6) months.

D.1.6 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the lime storage silo when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.8 Record Keeping Requirements

- (a) To document compliance with Condition D.1.4, the Permittee shall maintain records of visible emission notations of the lime silo storage stack exhaust once per shift.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:
 - (1) Once per shift records of the following operational parameters during normal operation when venting to the atmosphere:

- (A) Inlet and outlet differential static pressure; and
- (B) Cleaning cycle operation.
- (c) To document compliance with Condition D.1.6, the Permittee shall maintain records of the results of the inspections required under Condition D.1.6.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
and
City of Gary
Division of Air Pollution Control**

**PART 70 SOURCE MODIFICATION
CERTIFICATION**

Source Name: U.S. Steel - Gary Works
Source Address: One North Broadway, Gary, IN 46402
Mailing Address: One North Broadway, Gary, IN 46402
Source Modification No.: 089-14658-00121

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**Indiana Department of Environmental Management
Office of Air Quality
and
City of Gary Division of Air Pollution Control**

**Technical Support Document (TSD) for a
Part 70 Minor Source Modification**

Source Background and Description

Source Name:	U.S. Steel - Gary Works
Source Location:	One North Broadway, MS-70, Indiana 46402-3199
County:	Lake
SIC Code:	3312
Operation Permit No.:	089-7663-00121
Operation Permit Issuance Date:	Not yet issued
Significant Source Modification No.:	089-14658-00121
Permit Reviewer:	ERG/MP

The Office of Air Quality (OAQ) has reviewed a modification application from U.S. Steel - Gary Works relating to the following:

This project consists of the installation of one (1) active dust control system, or baghouse (LRS-1), with a capacity of 1,089 acfm and a grain loading of 0.007 (grains/cubic foot) on an existing lime storage silo at the Coke Plant Boiler House.

History

On July 18, 2001, U.S. Steel - Gary Works submitted an application to the OAQ requesting to modify their existing lime receipt system. This modification includes the removal from service of the currently used lime storage silo (equipped with a passive bin filter), and the re-introduction into service of an existing lime storage silo (with the baghouse being added). This equipment does not currently have an operating permit.

U.S. Steel - Gary Works submitted an application for a Part 70 permit on December 13, 1996. Since that time, U.S. Steel has applied for and received several source modification approvals. However, none were related to this project, and this project will not affect the capacity or throughput of any other operations.

Enforcement Issue

There are no enforcement actions pending for this unit.

Recommendation

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on July 18, 2001.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A of this document (page 1).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	42
PM-10	20
SO ₂	--
VOC	--
CO	--
NO _x	--

Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5 (d)(5)(C) as the source is using a particulate control device to limit PM and PM-10 emissions to less than twenty-five (25) tons per year.

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM-10	moderate non-attainment
SO ₂	primary non-attainment
NO ₂	attainment or unclassifiable
Ozone	severe non-attainment
CO	attainment or unclassifiable
Lead	attainment or unclassifiable

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating

the rule applicability relating to the ozone standards. Lake County has been designated as severe nonattainment for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

- (b) The portion of Lake County in which the source is located has been classified as nonattainment for sulfur dioxide (SO₂) and particulate matter with an aerodynamic diameter less than 10 microns (PM₁₀). Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	238
PM-10	1,683
SO ₂	6,147
VOC	4,618
CO	1,023
NO _x	4,334

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.
- (b) These emissions are based upon construction permit 089-12137-00121, issued on October 16, 2000.

Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

	Potential to Emit (tons/year)					
Pollutant	PM	PM ₁₀	SO ₂	CO	VOC	NO _x
Future Potential	0.29	0.29				
Past Actual	3.0E-06	1.0E-06				
Net Emissions from Project	0.29	0.29				
PSD or Offset Threshold	25	15	25	100	25	25

This modification to an existing major stationary source is not major because the net emission increase of PM, and PM-10 are less than the Emissions Offset significant levels. Therefore,

pursuant to 326 IAC 2-2 and 326 IAC 2-3, the Emissions Offset and PSD requirements do not apply.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

State Rule Applicability - Individual Facilities

326 IAC 5-1 (Opacity)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated:

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-1-2(a) (Nonattainment Area Particulate Emission Limitations for General Sources)

Pursuant to 326 IAC 6-1-2(a) (Nonattainment Area Particulate Emission Limitations for General Sources), this facility shall not emit particulate matter in excess of 0.03 grains per dry standard cubic feet. Compliance with this limit also makes 326 IAC 2-3 (Emission Offset) not applicable.

Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 089-14658-00121.

Appendix A: Emissions Calculations (Lime Storage Silo Baghouse)

Company Name:	U.S. Steel - Gary Works
Source Location:	One North Broadway, Gary, IN 46402
Minor Source Modification No.:	089-14658-00121
Plant ID:	089-00121
Permit Reviewer:	ERG/MP
Date:	8/10/01

Uncontrolled Potential to Emit

Use aggregate handling equation from EPA's AP-42, Section 13.2.4 to estimate airborne dust generation rate inside of the silo during pneumatic filling operation.

$$E = k(0.0032) \left[\frac{\left(\frac{U}{5} \right)^{1.3}}{\left(\frac{M}{2} \right)^{1.4}} \right]$$

Where:

E = Particulate matter emission rate ~ lbs/ton

k = Particle size multiplier ~ dimensionless

k = 0.74 for PM

k = 0.35 for PM₁₀

U = Wind speed ~ mph

M = Material moisture content ~ weight percent

From Steel Construction Handbook, the bulk density of piled lime is 85 lbs/ft³.

From Perry's Chemical Engineers Handbook, Sixth Edition, Table 7-13, the transport air velocity required to pneumatically transport a material with a bulk density of 85 lbs/ft³ is 8,500 feet per minute.

From EPA's AP-42, Section 13.2.4, Table 13.2.4-1, the average moisture content of crushed limestone is 0.7% wt/wt.

$$U = \frac{8,500 \text{ ft}}{\text{min}} \times \frac{60 \text{ min}}{\text{hr}} \times \frac{1 \text{ mile}}{5,280 \text{ ft}} = 96.6 \text{ mph}$$

$$E_{\text{PM}} = 0.74(0.0032) \left[\frac{\left(\frac{96.6}{5} \right)^{1.3}}{\left(\frac{0.7}{2} \right)^{1.4}} \right]$$

Appendix A: Emissions Calculations (Lime Storage Silo Baghouse) continued

Company Name :	U.S. Steel - Gary Works
Source Location:	One North Broadway, Gary, IN 46402
Minor Source Modification No.:	089-14658-00121
Plant ID:	089-00121
Permit Reviewer:	ERG/MP
Date:	8/10/01

$$E_{PM} = 0.48 \text{ lbs PM/ton lime}$$

$$E_{PM_{10}} = 0.48 \times \left(\frac{0.35}{0.74} \right) = 0.23 \text{ lbs PM}_{10}/\text{ton lime}$$

Maximum Annual Lime Throughput Capacity

$$\frac{20 \text{ tons}}{\text{hr}} \times \frac{8,760 \text{ hrs}}{\text{yr}} = 175,200 \text{ tons lime/yr}$$

Total Amount of Airborne Dust Generated Inside of Silo Per Year:

$$PM: \frac{175,200 \text{ tons lime}}{\text{yr}} \times \frac{0.48 \text{ lbs PM}}{\text{ton lime}} \times \frac{1 \text{ ton PM}}{2,000 \text{ lbs PM}} = 42.05 \text{ tons PM/yr}$$

$$PM_{10}: \frac{175,200 \times 0.23}{2,000} = 20.15 \text{ tons PM}_{10}/\text{yr}$$

Controlled Potential to Emit

Use the baghouse outlet grain loading and flowrate to determine the controlled potential to emit:

$$PM \text{ PTE (controlled)} = \text{Grain Loading (grains/acfm)} \times \text{Flowrate (acfm)}$$

$$PM \text{ PTE (controlled)} = 0.007 \text{ (grains/acfm)} \times 1,089 \text{ (acfm)} \times 60 \text{ (min/hr)} \times 1 \text{ (lb/7000 grains)}$$

$$PM \text{ PTE (controlled)} = 0.065 \text{ (lb/hr)}$$

$$PM \text{ PTE (controlled)} = 0.065 \text{ (lb/hr)} \times 8760 \text{ (hr/yr)} \times 1 \text{ (ton/2000 lb)} = 0.286 \text{ (ton/yr)}$$

Appendix A: Emissions Calculations (Lime Storage Silo Baghouse) continued

Company Name :	U.S. Steel - Gary Works
Source Location:	One North Broadway, Gary, IN 46402
Minor Source Modification No.:	089-14658-00121
Plant ID:	089-00121
Permit Reviewer:	ERG/MP
Date:	8/10/01

Past Actual Emissions

Past actual lime throughput rate:

$$\frac{5 \text{ shipments}}{\text{yr}} \times \frac{26 \text{ tons}}{\text{shipment}} = 130 \text{ tons lime/yr}$$

Uncontrolled Emissions (emissions that would leave silo without a bin filter):

$$\text{PM: } \frac{130 \text{ tons lime}}{\text{yr}} \times \frac{0.48 \text{ lbs PM}}{\text{ton lime}} \times \frac{1 \text{ ton PM}}{2,000 \text{ lbs PM}} (1 - 0.99) = 0.0003 \text{ tons PM/yr}$$

$$\text{PM}_{10} : 0.0003 \left(\frac{0.35}{0.74} \right) = 0.0001 \text{ tons PM}_{10}/\text{yr}$$

Controlled Emissions:

$$\text{PM: } 0.0003(1 - 0.99) = 3 \text{ E} - 06 \text{ tons PM/yr (negligible)}$$

$$\text{PM}_{10} : 0.0001(1 - 0.99) = 1 \text{ E} - 06 \text{ tons PM}_{10}/\text{yr (negligible)}$$